



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,258	01/24/2002	Yasuhiro Nakagawa	36858.839	7824

7590 03/01/2004

Keating & Bennett, LLP  
10400 Eaton Place  
Suite 312  
Fairfax, VA 22030

EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
----------	--------------

3729

DATE MAILED: 03/01/2004

14

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/056,258

Applicant(s)

NAKAGAWA ET AL.

Examiner

A. Dexter Tugbang

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2 and 5-12 is/are rejected.
- 7) ☒ Claim(s) 3 and 4 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/21/04 has been entered.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2 and 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Folk et al 4,707,722.

Folk discloses a method of manufacturing a nonreciprocal circuit device comprising: marking information onto a metal case (cap 22) by irradiating the metal case with a laser beam (see col. 2, lines 50+); and heating the circuit device by welding after the information has been marked onto the metal case (see col. 3, lines 50-55).

With respect to the process steps being drawn to a “ferrite core”, “central conductors”, “permanent magnet”, and the application of a “static magnetic field”, as recited in the preamble of Claim 2, these limitations recited in the preamble are intended use limitations and have not

Art Unit: 3729

been given patentable weight since the body of Claim 2 does not depend upon the preamble for completeness and the process steps are able to stand alone. *In re Hirao*, 535 F.2d 67 190 USPQ 15 (CCPA 1976).

Regarding Claim(s) 8, the claimed “upper yoke” and “lower yoke” can be read as cap 22 and the base 12 of the heat sink, respectively, where laser marking occurs before the upper yoke and lower yoke are bonded, i.e. welded, together (suggested at col. 3, lines 50-55).

Regarding Claim(s) 9, Folk suggests that the laser marking is performed by continuously irradiating a laser beam onto the metal case for at least 10 ms of exposure (see col. 3, lines 10-12).

Regarding Claim(s) 10, Folk alternatively suggest that the laser marking occurs with a “pulsed laser beam” (see col. 2, lines 65-68).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Folk et al.

With respect to the amount or range of temperatures within the step of heating (as recited in Claim 5) and the wavelength of the laser beam (as recited in Claim 11), the heating or welding to be carried out between the temperatures of 110-210° C and the wavelength range of the laser

Art Unit: 3729

beam being 10  $\mu\text{m}$  or less, are all considered to be effective variables within the level of ordinary skill in the art of welding or heating circuit devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided Folk with a range of temperatures between 110-210° C within the step of heating and a laser beam wavelength range of 10  $\mu\text{m}$  or less, since it has been held that discovering optimum values of result effective variables involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Folk et al in view of Japanese Patent Publication, JP 6-13478, referred to hereinafter as JP'478.

Folk, as relied upon above in Claim 2, discloses the claimed manufacturing method further including applying a welding material (rim 16) to portions where the components comprising the nonreciprocal circuit device are bonded to each other, prior to heating, for the purpose of sealing the device (see col. 2, lines 34-36). Folk does not say that the welding material applied is of a "solder paste" composition.

JP'478 teaches that solder paste compositions 17, 18 can be used to weld devices together and seal them (see Constitution). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the welding material of Folk by utilizing the solder paste material of JP'478, to purposely bond or weld the device together and seal it.

Regarding Claim(s) 7, and the amount or range of temperatures within the step of heating, the heating or welding to be carried out between the temperatures of 210-310° C is considered to be an effective variable within the level of ordinary skill in the art of welding or heating circuit devices. It would have been obvious to one of ordinary skill in the art at the time



Art Unit: 3729

the invention was made to have provided Folk with a range of temperatures between 210-310° C within the step of heating, since it has been held that discovering an optimum value of result effective variables involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Folk et al in view of Japanese Patent Publication JP 61-166050, referred to hereinafter as JP'050.

Folk, as relied upon above in Claim 7, discloses the claimed manufacturing method. However, Folk does not appear to mention that the laser is specifically a YAG laser.

JP'050 teaches that laser beams specifically used for marking a case can be a YAG laser (see Constitution). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the YAG laser of JP'050 for the laser of Folk, to achieve the same art recognized results of laser marking a case.

#### ***Response to Arguments***

8. Applicant's arguments with respect to Claims 2-12 (in Paper No. 10) have been considered but are moot in view of the new ground(s) of rejection.

#### ***Allowable Subject Matter***

9. Claims 3 and 4 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 3729

***Conclusion***

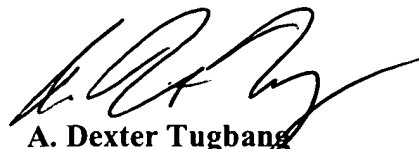
10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599.

The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**A. Dexter Tugbang**  
**Primary Examiner**  
**Art Unit 3729**

February 19, 2004